| (Tentative) Class Schedule | | | | | |
|----------------------------|--------|-----|--|--------------------|------------------|
| | | | Lecture | Homework | Project |
| 1 | 6-Feb | Wed | Introduction | | |
| 2 | 11-Feb | Mon | Discretizing ODEs | HW1 Posted | |
| 3 | 13-Feb | | Accuracy and Convergence | | |
| 4 | 19-Feb | | Zero Stability and the Dahlquist Equivalence Theorem | | |
| 5 | 20-Feb | Wed | Systems of ODEs and Eigenvalue Stability | HW1 Due | Project 1 Posted |
| 6 | 25-Feb | Mon | Stiffness and Implicit Methods | | |
| 7 | 27-Feb | Wed | Multi-step methods | | |
| 8 | 4-Mar | Mon | Runge-Kutta methods | | |
| 9 | 6-Mar | Wed | Introduction to Partial Differential Equations | HW2 Posted | Project 1 Due |
| 10 | 11-Mar | Mon | Introduction to Finite Difference Methods (FDM) | | |
| 11 | 13-Mar | Wed | Analysis of Finite Difference Methods | HW2 Due/HW3 Posted | |
| 12 | 18-Mar | | Introduction to Finite Volume Methods (FVM) | | |
| 13 | 20-Mar | Wed | Midterm Exam | HW3 Due | Project 2 Posted |
| Break | | | | | |
| Break | | | | | |
| 14 | 1-Apr | | Upwinding and the CFL condition | HW4 Posted | |
| 15 | 3-Apr | | Method of Weighted Residuals | | |
| 16 | 8-Apr | | Introdcution to Finite Element Methods (FEM) | | |
| 17 | 10-Apr | Wed | Finite Element Method in 2D | HW4 Due | |
| Patriots Day | | | | | |
| 18 | 17-Apr | | Fourier Analysis of PDEs | HW5 Posted | Project 2 Due |
| 19 | 22-Apr | | Eignevalue Stability of Finite Difference Methods | | |
| 20 | 24-Apr | | Monte Carlo Methods | | Project 3 Posted |
| 21 | 29-Apr | | Error Estimates for the Monte Carlo Method | HW5 Due | |
| 22 | 1-May | | Variance Reduction Techniques - Importance Sampling | | |
| 23 | 6-May | | Introduction to Optimization Methods | | |
| 24 | 8-May | | Methods of Sensistivity Analysys | | Project 3 Due |
| 25 | 13-May | | TBD | | |
| 26 | 15-May | Wed | Final Exam Review | | |
| | TBD | | Final Exam | | |